

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
12 May 2005 (12.05.2005)

PCT

(10) International Publication Number
WO 2005/043608 A1

(51) International Patent Classification⁷: **H01L 21/027**,
B05C 11/00, 11/08, B05D 1/40, G03F 7/16, 7/30

(21) International Application Number:
PCT/JP2004/016284

(22) International Filing Date: 27 October 2004 (27.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003-373392 31 October 2003 (31.10.2003) JP

(71) Applicant (for all designated States except US): **EBARA CORPORATION** [JP/JP]; 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo 1448510 (JP).

(72) Inventors; and
(75) Inventors/Applicants (for US only): **SHIRAKASHI,**

Mitsuhiko [JP/JP]; c/o Ebara Corporation, 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo 1448510 (JP). **HIROSE, Masayoshi** [JP/JP]; c/o Ebara Corporation, 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo 1448510 (JP).

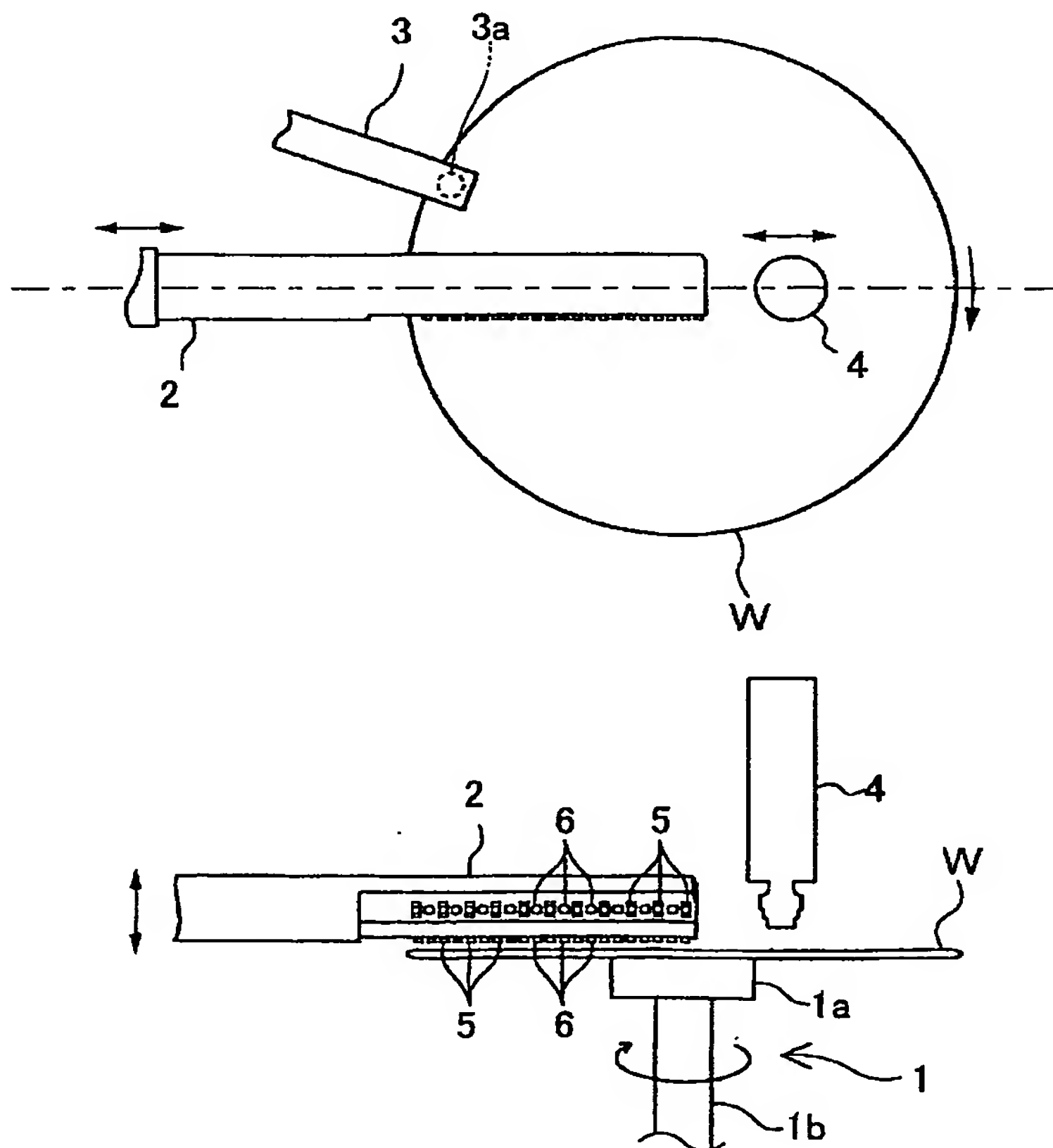
(74) Agents: **WATANABE, Isamu** et al.; GOWA Nishi-Shinjuku 4F, 5-8, Nishi-Shinjuku 7-chome, Shinjuku-ku, Tokyo 1600023 (JP).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: A PROCESSING LIQUID COATING APPARATUS AND A PROCESSING LIQUID COATING METHOD



(57) Abstract: The present invention relates to a processing liquid coating apparatus and a processing liquid coating method suitable for use in a lithography process for forming fine circuit patterns on a surface of a substrate such as a semiconductor wafer. The processing liquid coating apparatus according to the present invention includes a substrate holder (1) for holding and rotating a substrate (W), and a processing liquid supply unit (2) disposed apart from the substrate (W) held by the substrate holder (1). The processing liquid supply unit (2) has a plurality of supply ports (5, 6) for supplying a processing liquid to a plurality of portions including a central portion (C) of a surface of the substrate (W). A resist liquid or a developer is used as the processing liquid.



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.